



RESILIENCE and COMBAT MEDICS



"These things we do so that others may live." – Medic Creed



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Objectives

- Review the importance of studying this population
- Describe challenges in training medics and how they are being prepared psychologically
- Review literature associated with psychological risk and resiliency factors of medics
- Describe current research being conducted with medics
- Offer a research agenda for future direction

Rationale for Studying Resilience in Combat Medics

- **Revered military role - Medal of Honor**
- **Critical to combat units**
- **Responsible for treating wounded**
 - **Soldiers and allies**
 - **civilians and enemy combatants**
- **Potentially conflicting decisions on the battlefield**
- **Dual role (Soldier/Medic)**
- **No studies specifically on combat medics***



**CHARLES CHRIS
HAGEMEISTER**

68 Whiskey

Combat Medic Training

LTC Paul Mayer, MD
Director, Department of Combat Medic Training
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21 March, 2011



Department of Combat Medic Training (DCMT)

- Provides the Army with the best trained Combat Medics
- Highly motivated, well disciplined, and physically & mentally fit.
- A multifaceted learning environment



- Lectures
 - Demonstrations
 - Hands-on practical exercises
 - Scenario-based training
- Combined Field Training Exercise (CFTX)

68W Overview

- 2nd largest Specialty in the Army
- Trains over 7,500 Soldiers annually
 - 17 classes per year, with new classes starting every 2-3 weeks
 - Duration of 16 weeks
 - Class size is 450, 80% male
 - Service members from other branches & other countries are also trained

68W Curriculum Overview

- EMT-B (Emergency Medical Technician-Basic)
- Limited Primary Care
- Field Crafts
 - “Whiskey” training
 - Simulations
 - Combined Field Training Exercise (CFTX)

68W Curriculum Overview: Emergency Medical Technician-Basic (EMT-B)

- Lasts 7 weeks
- The curriculum is developed by the Department of Transportation (DOT)
- Students attain Healthcare Provider CPR Certification
- All Graduates are NREMT-B Certified & receive the “EMT” patch
 - National pass rate 65%
 - DCMT pass rate 92%

68W Curriculum Overview: Limited Primary Care

- Lasts 1 week
- Sick call
- Medical documentation
- Pharmacology
- Wound care



Field Crafts

- Tactical Medicine (“Whiskey”)
- Simulation Training
 - Hands-on training on mannequins in the Combat Trauma Patient Simulator (CTPS)
- Combined Field Training Exercise (CFTX)
 - Consists of Situational & Field Training



Field Crafts:

Tactical Medicine

- 6 weeks Tactical Combat Casualty Care (TCCC) fundamentals
- Core Skills
 - Combat Casualty Assessment (assess injuries the patient may have)
 - Tourniquet (stops bleeding on extremities – arms & legs)
 - Hemostatic agents (stops bleeding where tourniquets cannot – neck, armpits, & groin area)
 - Needle Chest Decompression (relieves air/pressure from around the lungs)
 - Surgical Airway (allows breathing via an opening in the throat when major facial damage is present)
 - King LT Airway (devices used to maintain an open airway)
 - IV & FAST-1 (allows fluids to be put into the body intravenously or through bone)
- Skills Validation
 - Hands-on test of overall knowledge & skills

Field Crafts: Simulation Training

- 116 Human Patient Simulators (HPS)
- HPSs allow for hands-on practice, which is required for certification, & allows the students to make mistakes without harming anyone.



Field Crafts:

Combined Field Training Exercise

- Lasts 2 weeks & is located at the Soldier Medic Training Site (SMTS) on Camp Bullis
- Consists of Situational & Field Training Exercises:
 - Convoy operations (reacting to ambushes while in vehicles)
 - Patrol
 - MOUT (Military Operations in Urban Terrain)
 - BAS (Battalion Aid Station)
 - CBRNE (Chemical, Biological, Radioactive, Nuclear, & Explosive)
 - Mass casualty exercises (when medical care needs overwhelm medical care capability)

68W Mental Health Training

- **Behavioral Health Emergencies - 2 hours**
- **Battle Mind Resiliency Training - 3 hours**
- **Depression/Suicide Recognition and Prevention -1 Hour**

Summary

- The lowest Killed In Action (KIA) rate is attributed to the following:
 - Improved Tactical Combat Casualty Care
 - Enhanced Personal Protective Equipment
 - Emphasis on Hemorrhage Control
 - Improved MEDEVAC/CASEVAC Response Times

Current Knowledge on Risk and Resilience of Combat Medics

Combat Medic Mettle Study – Dr. Paula Chapman

Ft Sam Study – LTC Sandra Escolas

Air Force Medics Study – Maj Monty Baker



Risk and Resiliency in Deployed and Non-Deployed Combat Medics

Paula L Chapman

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Tampa, FL

21 March, 2011



Collaborators:

- *Uniformed Services and Health Sciences University - MAJ David Cabrera, Military PI
- *Tulane University - Charles Figley, PhD, Qualitative PI
- *James A Haley Polytrauma Center and VA Hospital Center of Excellence: Maximizing Rehabilitation Outcomes - Paula Chapman, PhD, Quantitative PI
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- AMEDD C&S, LTC Sandie Escolas, PhD



The U.S. Army Medical Research Acquisition Activity, 820 Chandler Street, Fort Detrick MD 21702-5014 is the awarding and administering acquisition office for grant W81XWH-09-1-0655. Quant PI: Chapman; Military PI: Cabrera

Risk and Resiliency in Combat Medics

Objectives

- **To determine current behavioral health status of Army combat medics**
- **To identify risk/protective factors to predict behavioral health outcomes among Army Combat Medic**
- **To create an initial model of resiliency for the deployed Combat Medic**

Risk and Resiliency in Combat Medics

Methodology

- 3 year, prospective, longitudinal design
- Three groups:
 - Never deployed
 - 3-6 months post-deployment from a 12 month deployment
 - 12+ months post-deployment; not deployed in at least 12 months
- Mixed methods
- Convenience sample from population of U.S. Army Combat Medics in Europe and Ft Hood

Demographics

| | Never Deployed % (n) | 3-6 mo PD % (n) | 12+ mo PD % (n) |
|-------------------------------|---|--------------------------------|------------------------------------|
| Grade/Rank | | | |
| E1-E4 | 80.67 (192) | 64.18 (224) | 37.74 (80) |
| Race | | | |
| Other | 19.66 (46) | 12.57 (43) | 16.27 (34) |
| White | 65.38 (153) | 72.81 (249) | 65.55 (137) |
| Black | 14.96 (35) | 14.62 (50) | 18.18 (38) |
| Marital Status | | | |
| Not Married | 38.24 (91) | 27.51 (96) | 16.51 (35) |
| Married/ Separated | 55.88 (133) | 59.89 (209) | 72.17 (153) |
| Divorced | 5.88 (14) | 12.61 (44) | 11.32 (24) |

| | Never Deployed % (n) | 3-6 mo PD % (n) | 12+ mo PD % (n) |
|--------------------------------|---|--------------------------------|------------------------------------|
| Education | | | |
| High School or Less | 26.89 (64) | 29.51 (103) | 21.23 (45) |
| Some College | 67.23 (160) | 60.74 (212) | 73.58 (156) |
| College Degree | 5.88 (14) | 9.74 (34) | 5.19 (11) |
| Deployment | | | |
| Deployed to OIF | 0.00 (0) | 97.67 (336) | 93.09 (175) |
| Deployed to OEF | 0.00 (0) | 10.70 (20) | 38.68 (41) |

Threat, Loss & Potential Moral Injuries

| Threat | Deployed % (n) |
|---|----------------------|
| Did you believe you were in serious danger of being injured or killed? | 76.51 (254) |
| Loss | |
| Was a Soldier whom you care about and whom you consider close to you seriously injured or killed? | 43.97 (153) |
| Were you wounded or injured? | 8.65 (30) |
| Potential Moral Injuries | |
| During your most recent deployment, did you personally engage the enemy in fire fight? | 27.49 (94) |
| Were you directly responsible for the death of an enemy combatant? | 5.76 (20) |
| Were you directly responsible for the death of civilians? | 1.44 (5) |

Experiences in Combat

| Experiences in Combat | Deployed % (n) |
|--|----------------------|
| I or members of my unit received hostile incoming fire from small arms, artillery, rockets, mortars, or bombs. | 83.08 (324) |
| Working in areas that were mined or had IEDs. | 73.49 (255) |
| I or members of my unit were attacked by terrorists or civilians. | 67.26 (263) |
| Clearing/searching homes or buildings. | 57.76 (201) |
| I personally witnessed someone from my unit or an ally unit being seriously injured. | 36.73 (137) |
| Personally witnessed Soldiers from enemy troops being seriously wounded or killed. | 33.50 (131) |
| My unit engaged in a battle in which it suffered casualties. | 32.74 (128) |
| Shooting or directing fire at the enemy. | 26.80 (93) |
| I fired my weapon at the enemy. | 19.95 (78) |
| I killed or think I killed someone in combat. | 8.21 (32) |

Depression and PTSD

| Depression | Never Deployed % (n) | 3-6 mo PD % (n) | 12 mo PD % (n) |
|-------------------|-------------------------------------|--------------------------------|-------------------------------|
| < 5 | 68.02 (151) | 54.71 (186) | 63.21 (122) |
| 5 to 14 | 28.38* (63) | 38.82*+ (132) | 32.12+ (62) |
| >= 15 | 3.60 (8) | 6.47 (22) | 4.66 (9) |
| PTSD | Never Deployed % (n) | 3-6 mo PD % (n) | 12 mo PD % (n) |
| <= 28 | 83.33 (185) | 65.59 (223) | 69.43 (134) |
| 29 to 49 | 13.06x# (29) | 25.88x (88) | 23.83# (46) |
| >= 50 | 3.60 (8) | 8.53 (29) | 6.74 (13) |

Mental Health Services

| Mental Health Services | Never Deployed % (n) | 3-6 mo PD % (n) | 12 mo PD % (n) |
|--|---|--------------------------------|-------------------------------|
| Mental health professional? | 16.81 (40) | 26.65 (93) | 29.72 (63) |
| Combat stress control professional? | 0.85 (2) | 13.54 (47) | 14.56 (30) |
| General medical doctor? | 11.02 (26) | 16.47 (57) | 18.84 (39) |
| Military chaplain? | 9.28 (22) | 12.39 (43) | 9.13 (19) |
| Medic in your unit? | 1.69 (4) | 4.61 (16) | 3.88 (8) |
| Soldier in your unit? | 2.11 (5) | 4.60 (16) | 4.81 (10) |

Risk and Resiliency in Combat Medics

Summary

- **Young, well-educated**
- **Life threat**
- **Resource for stress management**
- **Dual role of healer and warfighter**
- **Depression versus stress**

Risk and Resiliency in Combat Medic Trainees

**Ameliorating Pre-Existing Risk Factors & Enhancing
Protective Factors of Soldier Medics During Training**

**Escolas, S., Mayer, P., Baker, M., Chapman, P. &
Maiers, A.**

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21 March, 2011**



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Risk and Resiliency in Combat Medic Trainees

Purpose/Objectives

- **To conduct a behavioral health assessment of US Army Soldiers assigned for Combat Medic training**
- **To assess pre-existing behavioral health issues of Soldiers Medics**
- **To determine pre-existing risk factors to psychological resiliency**
- **To determine pre-existing protective factors of psychological resiliency**

Risk and Resiliency in Combat Medic Trainees

Methodology

- **Repeated-measures design**
 - **Time 1 - in-processing**
 - **Time 2 - out-processing**
- **Inclusion/Exclusion criteria**
 - **+18 years old**
 - **US Army Soldier**
 - **Attached to Fort Sam Houston**
 - **Attendance of 68W Health Care Specialist AIT**
 - **Agree to complete both surveys**

Risk and Resiliency in Combat Medic Trainees

| | |
|---|--|
| Demographics | age, gender, race/ethnicity, component grade/rank, education, marital status |
| Locus of Control (LOC) | generalized expectancies for internal versus external control of reinforcement |
| Relationship Questionnaire (RQ) | attachment style |
| Life Experiences Survey (LES) | pre-existing stressful events and traumas |
| Patient Health Questionnaire (PHQ-9) | depression and anxiety symptoms |
| Post Traumatic Stress Disorder (PCL-C) | post traumatic stress symptoms |
| Positive and Negative Affect Schedule (PANAS) | positive and negative affect |
| Response to Stressful Experience Scale (RSES) | resilient behaviors and processes (cognitive flexibility, spirituality, active coping, self-efficacy, making-meaning, restoration) |
| Dispositional Resilience Scale (DRS-15) | hardiness (commitment/control/challenge) |
| Test of Self-Conscious Affect (TOSCA) | shame and guilt proneness |
| The Family Adaptability and Cohesion Evaluation Scale (FACES) | family cohesion |

Risk and Resiliency in Combat Medic Trainees

- Time 1 data collection is complete
 - As of 08 March 2011, approximately 580 incoming Combat Medic students have completed the survey
- Time 2 data collection will commence June 2011



Risk and Resiliency in Deployed Air Force Medical Personnel

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21 March, 2011



Collaborators:

- *University of Texas Health Science Center at San Antonio - Alan Peterson, PhD (PI, Lt Col - Ret.); Jim Mintz, PhD; John Hatch, PhD
- *Harvard University - Richard McNally, PhD
- *National Center for PTSD, & Boston University - Brett Litz, PhD
- *Wilford Hall Medical Center, USAF - Maj Monty Baker, PhD; Lt Col William Isler, PhD

Risk and Resiliency - Deployed Air Force Medical Personnel

Purpose/Objective

- Prospective evaluation of risk, resilience, natural recovery, and posttraumatic growth in USAF medical personnel deployed to Joint Base Balad, Iraq.



Risk and Resiliency - Deployed Air Force Medical Personnel

Methodology

- **Pre-, mid-, and post-deployment at 1-, 6-, and 12- months**
- **Anonymous survey**
- **Variables: previous exposure to traumatic life events, PTSD symptoms, healthcare stressors unique to deployed military settings, general military attitudes and experiences, anxiety, depression, resilience, and post-traumatic growth**

Risk and Resiliency - Deployed Air Force Medical Personnel

- Examined relationship between preparation for medical personnel deployment and
 - Risk Factors: Pre-deployment stresses and potentially traumatic events
 - Protective Factors: Positive Military Experiences and Trait Resilience

Maguen, S., Turcotte, D. M., Peterson, A. L., Dremsa, T. L., Garb, H. N., McNally, R. J., & Litz, B. T. (2008). Military Medical Personnel: Risk and Resilience Factors Prior to Deployment to Iraq. *Military Medicine*, 173 (1), 1-9.

Risk and Resiliency - Deployed Air Force Medical Personnel

- Examined relationship between unit cohesion and PTSD symptom severity
 - Protective Factor of unit cohesion was verified
 - Relationship proved consistent regardless of level for stress exposure

Dickstein, B. D., McLean, C. P., Mintz, J., Conoscenti, L., Steenkamp, M. M., Benson, T. A., Isler, W. C., Peterson, A. L., & Litz, B. T. (2010). Unit cohesion and PTSD symptom severity in Air Force medical personnel. *Military Medicine*, 175(7), 482-486.



Risk and Resiliency - Deployed Air Force Medical Personnel

- **2 manuscripts currently in press; 16 additional presentations at scientific conferences**

Need for Future Research

- Specific research
 - Combat medics offer a potentially distinct group to study varying aspects of resilience and risk factors.
 - To date, a limited number of cross-sectional studies have been executed with convenience sampling.
 - Integrated longitudinal studies are needed that address personal, environmental, organizational and occupational factors.

Summary and Closing Remarks

- Research for combat medics has seen a limited scope of study but seems a focal area for future research
- Future directions/call for collaboration on future projects would seem desirable given Service -based differences in training and duties. Such coordination could support distillation of common resiliency principles.

Questions/Comments

